AMENDED CLAIMS in Serial No. 08/227,999

1 ~~22~~. (Amended) An arrangement comprising:

a source functional to provide an AC voltage between a first and a second source terminal; there being substantially no galvanic connection between the first source terminal and earth ground; there being substantial galvanic connection between the second source terminal and ~~earth~~ ground; the term galvanic connection being defined as a connection by way of which a unidirectional current can flow;

a capacitor [means] having a first and a second capacitor terminal; the first capacitor terminal being connected with the second source terminal; and

gas discharge lamp having a first and a second lamp terminal disconnectably connected with the first source terminal and the second capacitor terminal, respectively;

whereby neither the first source terminal nor the second capacitor terminal exhibits galvanic connection with earth ground.

2 ~~23~~. The arrangement of claim 1 ~~22~~ wherein the frequency of the AC voltage is larger by at least two orders of magnitude compared with the frequency of the power line voltage normally present at an ordinary electric utility power line.

3 ~~24~~. The arrangement of claim 1 ~~22~~ wherein: (i) the source is connected in circuit with an ordinary electric utility power line; and (ii) current of frequency about equal to that of the voltage present on the power line is substantially prevented from flowing between earth ground and the first source terminal as well as between earth ground and the second capacitor terminals.

4 ~~25~~. The arrangement of claim 1 ~~22~~ wherein, prior to lamp ignition: (i) an ignition voltage exists between the lamp terminals; and (ii) the ignition voltage includes a substantial component of DC voltage.

26. (Amended) An arrangement comprising:

a circuit assembly [DC power supply means] operative to provide a DC voltage at a pair of DC terminals;

an inverter [means] connected with the DC terminals and operative to provide an AC voltage between a pair of AC terminals;

gas discharge lamp having a pair of lamp terminals; and

a sub-circuit connected between the AC terminals and the lamp terminals; the sub-circuit being operative to cause a lamp current to flow through the lamp;

the arrangement being operative to cause the RMS magnitude of the AC voltage to be higher after lamp ignition compared with before lamp ignition.

27. An arrangement comprising:

a power source providing a power line voltage at a pair of power line terminals;

a first sub-circuit connected with the power line terminals and operative to provide a DC voltage at a pair of DC terminals;

a second sub-circuit connected with the DC terminals and operative to provide an AC voltage between a pair of AC terminals; the second sub-circuit being characterized by having two transistors series-connected between the DC terminals; the AC voltage being characterized by being non-sinusoidal and by having a peak-to-peak magnitude distinctly higher than the peak magnitude of the power line voltage; the AC voltage being further characterized by having a fundamental period: (i) during a first part of which its instantaneous magnitude remains substantially constant at a first given level; and (ii) during a second part of which its instantaneous magnitude remains substantially constant at a second given level, the second part having a total duration substantially equal to that of the first part as well as substantially equal to at least one fourth the total duration of the whole fundamental period;

gas discharge lamp having lamp terminals; and

a third sub-circuit connected between the AC terminals and the lamp terminals; the third sub-circuit being operative, in response to the AC voltage, to cause a lamp current to flow through the lamp.

28. The arrangement of claim 27 wherein the lamp current has a waveform that is substantially sinusoidal.

9 29. The arrangement of claim 27 further characterized in that the absolute magnitude of the DC voltage is distinctly higher than the peak absolute magnitde of the power line voltage.

9 30. The arrangement of claim 27 wherein each transistor has a pair of control terminals across which exists a transistor control voltage; the transistor control voltage being characterized by: (i) being of the same fundamental frequency as that of the AC voltage; (ii) having a peak-to-peak magnitude distinctly higher than twice the magnitude of the forward voltage drop of an ordinary junction diode; and (iii) alternating between a first substantially constant level and a second sunstantially constant level, spending a certain amount of time at each substantially constant level, which certain amount of time is equal to at least one fourth of the duration of the whole period of the AC voltage.

10 31. (Amended) An arrangement comprising:

a power source providing a power line voltage at a pair of power line terminals;

a first sub-circuit connected with the power line terminals and operative to provide a DC voltage at a pair of DC terminals;

a second sub-circuit connected with the DC terminals and operative to provide an AC voltage between a pair of AC terminals; the AC voltage being characterized by having a fundamental period: (i) during a first part of which its instantaneous magnitude remains substantially constant at a first given level; and (ii) during a second part of which its instantaneous magnitude remains substantially constant at a second given level, the second part having a total duration substantially equal to that of the first part as well as substantially equal to at least one fourth the total duration of the whole fundamental period;

gas discharge lamp having lamp terminals;

a third sub-circuit connected between the AC terminals and the lamp terminals; the third sub-circuit being operative, in response to the AC voltage, to cause a lamp current to flow through the lamp; and

physical structure: [means] (i) operative to combine the three sub-circuits and the gas discharge lamp in such manner as to constitute a single integral physical entity; [with no disconnectable elements;] and (ii) including a base adapted to be screwed into and held by a lamp socket of a type usually used for an ordinary household incandescent light bulb.

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32. (Amended) An arrangement comprising:

a power source providing a power line voltage at a pair of power line terminals;

a first sub-circuit connected with the power line terminals and operative to provide a DC voltage at a pair of DC terminals;

a second sub-circuit connected with the DC terminals and operative to provide an AC voltage between a pair of AC terminals; the AC voltage being characterized by having a fundamental period: (i) during a first part of which its instantaneous magnitude remains substantially constant at a first given level; and (ii) during a second part of which its instantaneous magnitude remains substantially constant at a second given level, the second part having a total duration substantially equal to that of the first part as well as distinctly longer than one fourth the total duration of the whole fundamental period;

gas discharge lamp having lamp terminals;

a third sub-circuit connected between the AC terminals and the lamp terminals; the third sub-circuit being operative, in response to the AC voltage, to cause a lamp current to flow through the lamp; and

physical structure [means] combining the three sub-circuits and the gas discharge lamp in such manner as to result in a single substantially rigid physical structure characterized by having a protruding threaded portion adapted to be screwed into and held by an Edison-type lamp socket.

33. (Amended) An arrangement comprising:

a first sub-circuit adapted to connect with the power line voltage of an ordinary electric utility power line and, when indeed so connected, operative to provide a DC voltage at a pair of DC terminals;

a second sub-circuit connected with the DC terminals and operative to provide an AC voltage between a pair of AC terminals; the AC voltage being characterized by having a fundamental period: (i) during a first part of which its instantaneous magnitude remains substantially constant at a first given level; and (ii) during a second part of which its instantaneous magnitude remains substantially constant at a second given level, the second part having a total duration substantially equal to that of the first part as well as distinctly longer than one fourth the total duration of the whole fundamental period;

gas discharge lamp having lamp terminals;

a third sub-circuit connected between the AC terminals and the lamp terminals; the third sub-circuit being operative, in response to the AC voltage, to cause a lamp current to flow through the lamp; and

physical structure [means] combining the three sub-circuits and the gas discharge lamp in such manner as to result in a single substantially rigid physical structure characterized by having a protruding threaded portion adapted to be screwed into and held by an Edison-type lamp socket.

13 34. The arrangement of claim 12 further characterized by: (i) the gas discharge lamp having a longitudinal axis, a maximum longitudinal dimension, and a cross-section with a maximum cross-sectional dimension; and (ii) in a situation wherein the longitudinal axis is disposed vertically, the three sub-circuits all being disposed below the gas discharge lamp.

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14 35. The arrangement of claim 13 yet further characterized it that: (i) the threaded portion has a maximum transverse dimension; and (ii) the maximum cross-sectional dimension is no larger than three times the maximum transverse dimension of the threaded portion.

15 36. The arrangement of claim 12 further characterized by: (i) the threaded portion having a maximum transverse dimension; (ii) the gas discharge lamp having but a single chamber of ionizable gas; which chamber being of tubular shape; which tubularly shaped chamber being curved, thereby to give rise to a gas discharge path that is curved; and (iii) having a pair of thermionic cathodes spaced apart by a distance no larger than three times the maximum transverse dimension of the threaded portion.

16 37. The arrangement of claim 13 yet further characterized in that the length of the maximum longitudinal dimension is equal to at least twice the length of the maximum cross-sectional dimension.

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17 38. The arrangement of claim 12 wherein the second part is further characterized by having a total duration that is distinctly shorter than half the total duration of the whole fundamental period.

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